

# Evance Launches the Iskra R9000 Advanced Turbine

Submitted by: Carrot Communications

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14th May 2009, Loughborough, England: Evance (<http://www.evancewind.com>) (formerly Iskra Wind Turbines) has launched a new 5kW wind turbine (<http://www.evancewind.com>) that heralds a significant advance in efficiency, reliability, durability, corrosion resistance, and reduced installation time and cost. The Iskra R9000 (<http://www.evancewind.com>) is designed for schools, farms, rural homes and light commercial applications.

The new turbine is an evolution of the popular and reliable Iskra AT5-1 and has been developed over two years, including continuous monitoring and evaluation on Evance's test sites, instrumented and measured according to IEC standards.

There are a number of key features that differentiate the Iskra R9000 from other small wind turbines and give it class leading performance, efficiency and energy yield, these include:

- Blade Technology - Airborne erosion testing (blowing more than £1000 of sand at 60 mph onto blades) to twice standards necessary for military use. Improvements in manufacturing process, to ensure highest quality standards.
- Noise reduction - Advanced generator design which virtually eliminates generator noise, whilst maintaining 96% efficiency. Aerodynamic improvements in aerofoil design reduces overall noise by 40 percent. The turbine has been measured at Lp 60m = 45dB(A). BWEA Reference Sound Level at 8m/s and 60m distance.
- Efficiency – The AT5-1 was already the most efficient turbine in its class and the Evance Iskra R9000 has increased that efficiency by four percent, increasing energy yield from 8700kWh to over 9000kWh on a site with AMWS of 5m/s.
- Five year warranty – Evance is so confident of the quality of the new turbine that it comes with a five year warranty as standard. This assurance is based on the combined knowledge of all Evance's installers and two and half million operating hours, with 99 percent uptime. Designed to meet the IEC61400-2 international standard, all of the R9000's parts are manufactured in composite stainless steel or coated to automotive standards. All installations are backed by a manufacturer trained and certified service network.
- Energy – The Iskra R9000 generates more energy than any other 5kW turbine on the market – 9.012 kWh with an annual mean wind speed of 5m/s (11mph), measured to IEC and BWEA standards.
- Styling – The turbine has been styled to blend in with the environment for low visual impact and to fit planning demands, and improve resistance to the impact of extreme climates. The new turbine retains the feel of the iconic AT5-1 tail vane styling, but with more advanced design.

- Certification – The Microgeneration Certification Scheme (MCS) is reviewing the turbine currently and as Evance has been measuring noise and energy yield to IEC standards for over two years it is confident that Certification will confirm its leading performance.
- Reactive Pitch - The turbine's Reactive Pitch™ technology ensures that its aerofoils are perfectly positioned to the wind at all times. With no cut out wind speed the R9000 generates power from 5.6 mph/2.5 m/s
- Braking - A patented ElectroBrake™, which has no moving parts, stops the turbine at any wind speed and has no connection from the top of the tower to the ground or any other systems. The watchdog function on the ElectroBrake™ provides failsafe backup.

## Specifications

- Architecture - upwind, 3 bladed rotor, self regulating
- Rated power - 5kW @ 12m/s (26.8 mph) continuous to 60 m/s (134 mph)
- Annual energy yield - 9.012 kWh with annual mean wind speed of 5m/s (11mph) to IEC and BWEA Standards
- Cut-in wind speed - 2.5m/s (5.6 mph)
- Cut-out wind speed - none – continuous generation to survival wind speed
- Survival wind speed - 60 m/s (134 mph)
- IEC wind turbine class - conforms to IEC 61400 to Class II – AMWS up to 8.5 m/s (19 mph)
- Control system - Patented Reactive Pitch™ control
- Rotor diameter - 5.4 m (17.7 feet)
- Rotor speed - 200 rpm nominal. 230 rpm maximum
- Blade type - fully optimised aerofoil ensuring maximum yield and minimum noise
- Blade material - glass fibre reinforced composite, low reflection, UV and anti-erosion coatings
- Generator - patented brushless direct drive air-cored high efficiency Permanent Magnet Alternator
- Gearbox - none required. See generator.
- Emergency braking - Patented Automatic Electrobrake™ (with manual control for servicing). No moving parts.
- Yaw control - Passive – tail vane and rotor
- Tower height - 9m, 12, 15m (30ft, 40ft, 50ft and US 80ft)
- Tower types - Free standing (monopole) or guyed
- Tower top mass - Approx 300kg (660lbs) complete exclusive of tower
- Design longevity - 20 years. Annual service inspection
- Noise – Lp 60m = 45dB(A). BWEA Reference Sound Level at 8m/s and 60m distance

Full details of Evance and its products can be found at the company's new website: [www.evancewind.com](http://www.evancewind.com).

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Notes to editors:

Evance is a supplier of renewable energy systems (<http://www.evancewind.com>). It makes an advanced wind turbine (ISKRA R9000) for the 'small wind' market - for example, for homes, schools, and farms (as opposed to the 'big wind' market of commercial wind farms or roof mounted turbines - micro wind).

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